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Stationary core guide

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AU

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(54) Inventor(s)
Noel Birkett Lennane



AUSTRALIA
Patents Act 1990

P/00/001
Section 29

Patent Request : Standard Patent / Patent of Addition

We, being the person(s) identified below as the Applicant, request the grant of a patent to the person identified below as the Nominated Person, for an invention described in the accompanying standard complete specification.

Full application details follow:

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[54] Invention Title

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Associated Provisional Application(s) Details

[60] Application Number(s) and Date(s)

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1/11/1995

Basic Convention Application(s) Details

[31] Application Number

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[32] Date of Application

P00017642

Divisional Application Details

[62] Original application number

AUSTRALIAN INDUSTRIAL

25 OCT 1995

PROPERTY ORGANISATION

Patent Invention Details (Patent of Addition requests only)

[61] Application number

Patent number

Drawing number recommended to accompany the abstract

Signature

Date

25/10/95

AUSTRALIA

Patents Act 1990

NOTICE OF ENTITLEMENT
(To be filed before acceptance)

I/We, Noel Bennett, Lia N. Baker,
of 2/15 C.R.OCKER St Rockingham, ACN/ARBN
being the applicant in respect of Application No. PM 9034, state the following:-

Part 1 - Must be completed FOR ALL APPLICATIONS.

The person(s) nominated for the grant of the patent:

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or

*has entitlement from the actual inventor(s)

(eg by assignment, by mesne assignment, as legal representative of ..., etc)

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has entitlement to make a request under Section 113 in relation to the provisional application(s) listed on the patent request form

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*has entitlement from the applicant(s) of the basic application(s) listed on the patent request form

(eg by assignment, by mesne assignment, by consent, etc)

(Continued over)

*The basic application(s) listed on the request form:

*is/*are the first application(s) made in a Convention country in respect of the invention
or

*was/were not the first application(s) made in a Convention country in respect of the invention, and a request has been made under Section 96 of the Patents Act 1990 (or Section 142AA of the Patents Act 1952) to disregard the following application(s)

.....

* **Part 4 - Must be completed FOR PCT APPLICATIONS.**

The person(s) nominated for the grant of the patent:

*is / *are the applicant(s) of the application(s) listed in the declaration under Article 8 of the PCT
or

*has entitlement from the applicant(s) of the application(s) listed in the declaration under Article 8 of the PCT

.....

(eg by assignment, by mesne assignment, by consent of, as legal representative ofetc)

The basic application(s) listed in the declaration made under Article 8 of the PCT

*is / *are the first application(s) made in a Convention country in respect of the invention
or

*was / *were not the first application(s) made in a Convention country in respect of the invention, and a request has been made under Section 96 of the Patents Act 1990 (or Section 142AA of the Patents Act 1952) to disregard the following application(s)

.....

*The provisional application(s) listed in the declaration made under Article 8 of the PCT

*was / *were filed in Australia not more than 12 months before the filing date of this application.

* **Part 5 - Must be completed if the application is a DIVISIONAL APPLICATION.**

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* Part 6 - Must be completed if the application relates to A MICROORGANISM and relies on SECTION 6 of the Act.

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Deposit List (by number, deposit institution, date)

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Part 7 - Must be completed if the applicant for a PATENT OF ADDITION is not the applicant or patentee of the main invention.

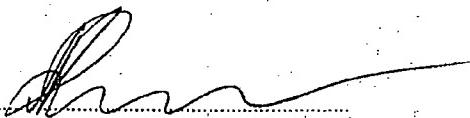
I,
the *applicant / *patentee for *application / *patent No.

authorise
to apply for a further patent for an improvement in, or modification of, the main invention.

.....
(Signature)

.....
(Date)

Note: This part must be signed by the applicant/patentee of the main invention.

.....


.....
25.10.1995.....

.....
(Date)

(If the applicant is a Company or other legal entity, also indicate the name and standing of the authorized signatory.)

Note: This MUST be signed FOR ALL APPLICATIONS

* Omit/Delete if not appropriate



AU9534500

(12) PATENT ABSTRACT (11) Document No. AU-A-34500/95
(19) AUSTRALIAN PATENT OFFICE

(54) Title
STATIONARY CORE GUIDE

(51)⁶ International Patent Classification(s)
B23D 047/04

(21) Application No. : **34500/95** (22) Application Date : **25.10.95**

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PM9034 **26.10.94** **AU AUSTRALIA**

(43) Publication Date : **09.05.96**

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(72) Inventor(s)
NOEL BIRKETT LENNANE

(57)

A stationary core guide is disclosed. This device is an assembly of three horizontal metal bars or sections fixed longitudinally above the saw bench top (1) or carriage (2) the bars contains the rock core in the vertical or lateral plane, while allowing it free longitudinal travel within the guide assembly. The guide assembly restrains the core only until core passes cutting edge of blade (3) after which it is free to fall away from blade. This device enables power core feed for hard rock core saws in the mining industry.

CLAIM

1. A guide for powered drive rock core saws which when in operation, remains stationary in relation to core moving through it, accurately containing and guiding core pieces through the cutting edge of saw blade only, and thereafter immediately releasing same.

STATIONARY CORE GUIDE

This invention enables the practical operation of a power feed saw for the splitting, quartering or slicing of hard rock drill core as required by the mining or related industries.

- Previous attempts to build a serviceable machine using various methods of power feed for cutting drill core have been plagued with problems, and largely unsuccessful. Cutting core is still done by hand using a standard diamond blade bricksaw, a very dirty and unpleasant occupation. These attempts usually involved enclosing the core in a cartridge or an enclosed carriage to guide it through the blade. Since this meant that the core was held tightly against the blade, after passing the cutting edge frequent jamming of diamond blade was inevitable, and yet drill core, because of its varying and broken nature, must be accurately confined while being forced through cutting edge.
- These problems have been overcome by this invention, since it closely and accurately confines the pieces of rock core as they travel through the blade cutting edge, and then releases the cut pieces, allowing them to fall away from the saw blade, thereby inhibiting any tendency to jam. The actual core drive method may be a continuous belt, chain or a moving carriage, so long as suitable drive lugs are affixed to push core.

In one form, this invention is simply a fixed non adjustable guide or tunnel built for one size of core only, which would have to be removed and replaced if a change of core size is required.

- In another form this invention has laterally adjustable guide bars
- 5 set at each side of the rock core with a vertically adjustable guide bar set to the top face of the core, since the lower face of the core is firmly located by the drive assembly or carriage, this arrangement accommodates any change in core size required. The top guide bar is designed to open or remove to
- 10 facilitate loading of core, without disturbing preset adjustments.

The core guide assembly may be made of any suitable material or combination of materials, but in view of the forces involved with this machine, the basic structure is fabricated from suitable steel sections.

- 15 To assist with understanding the invention, reference will now be made to the accompanying drawings which show one example of the invention.

In the drawings:

- FIG 1 Is the top view of the stationary core guide on saw bench.
- 20 FIG 2 Is the side view of the stationary core guide on saw bench.
- FIG 3 Is the cross section AA from FIG 1.

FIG. 1 Is a top view of saw bench 1 with stationary guide assembly fitted, core drive being a moving split carriage 2 shown in the full rearward or loading position. When operating only the carriage and loaded core move past saw blade 3 in the direction shown by arrow 4 .Side guides 5 and top guide 6 are fixed in position by front support frame 7 and rear support frame 8 , thereby remaining stationary while core moves through.

FIG' 2 Is a side view of stationary guide assembly, fitted to top of saw bench 1 showing carriage 2 in the rearward position. Direction of travel past saw blade 3 is illustrated by arrow 4 . Side guides 5 and top guide 6 remain in fixed position while cutting. To reload with core, carriage 2 is returned to rear position shown, when top guide 6 may be slid to rear in direction of arrow 9 through slide 10 to uncover carriage 2 facilitating loading of core. Top guide handle 11 simplifies operation. Slide and clamp screw 12 illustrate one form of vertical adjustment for top guide 6 on rear support frame 8 . This frame is otherwise essentially similar to that shown in FIG 1.Side guides 5 and top guide 6 must terminate approximately at point shown 13 in relation to saw blade.

FIG 3 Is a cross section AA from FIG 1 and shows an end view of the core guide front support frame 7 ,a structure fabricated and welded at points 14 from suitable sections of mild steel, and fixed or welded to bench top frame 1 The top guide bar 6

made from 35mm galvanised steel tube. The top guide bar 6 slides under and is adjusted vertically by adjusting bolt 15 , which is locked in position by locknut 16 to suit core 17 currently being cut. The side guides 5 are made from 30mm x 5 50mm x 3mm galvanised steel and channel side guides 5 are welded to internally threaded adjuster tubes 18 , and may be adjusted laterally to fit varying core 17 diameters, by screwing adjusting bolts 19 to increase or decrease distance between guides. When set, locknuts 20 may be tightened. Core 17 rests 10 on split carriage 2 which drives it longitudinally through saw blade 3.

The claims defining the invention are as follows:

1. A guide for powered drive rock core saws which when in operation, remains stationery in relation to core moving through it, accurately containing and guiding core pieces through the cutting edge of saw blade only, and thereafter immediately releasing same.
2. The stationery guide of claim 1 wherein adjustment for different core size is carried out by removal and replacement of guide assembly.
- 10 3. The stationery guide of claim 1 wherein adjustment of side and or top guide bar for different core size is carried out by means of screwed threads.
4. The stationery guide of claim 1 wherein adjustment of side and or top guide bars is carried out by means of slides, and clamps or pins.
- 15 5. The stationery guide of claim 1 wherein adjustment of side and or top guide bars are by means of replacement of shims or spacers.
6. The stationery guide of claims 1 to 5 wherein top guide bar opens or removes for loading core.
- 20 7. The stationery guide of claim 2 wherein the guide assembly as a whole opens or removes for loading core.

8. The stationery guide of claim 1 wherein the guide assembly is not designed to open for loading, the core in the case being loaded or driven through the open end of the guide assembly.
9. A stationary core guide device substantially as described
5 herein with reference to the accompanying drawings.

N B LENNANE

24 OCTOBER 1995

ABSTRACT

A stationary core guide is disclosed. This device is an assembly of three horizontal metal bars or sections fixed longitudinally above the saw bench top (1) or carriage (2) the bars contains the rock core in the vertical or lateral plane, while allowing it free longitudinal travel within the guide assembly. The guide assembly restrains the core only until core passes cutting edge of blade (3) after which it is free to fall away from blade. This device enables power core feed for hard rock core saws in the mining industry.

FIGURE 1

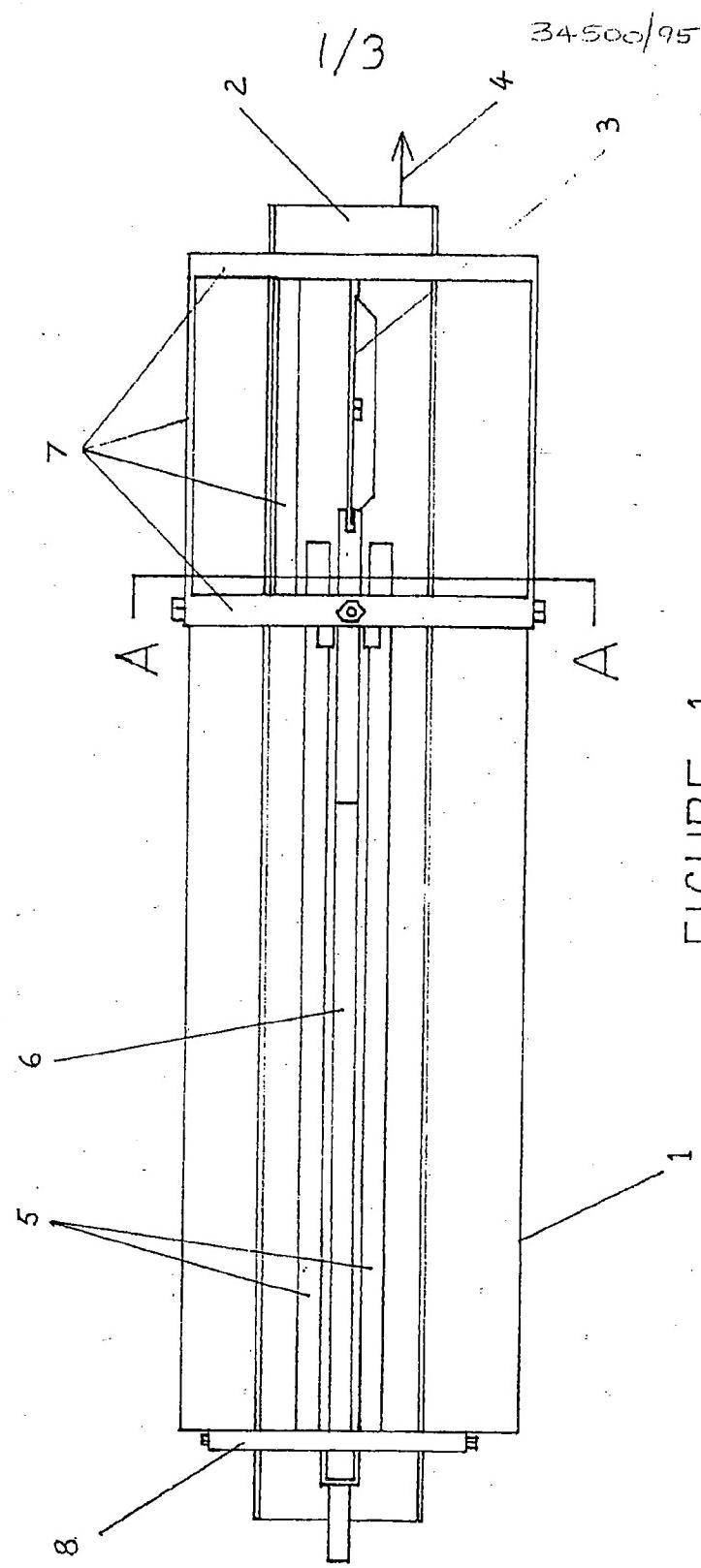
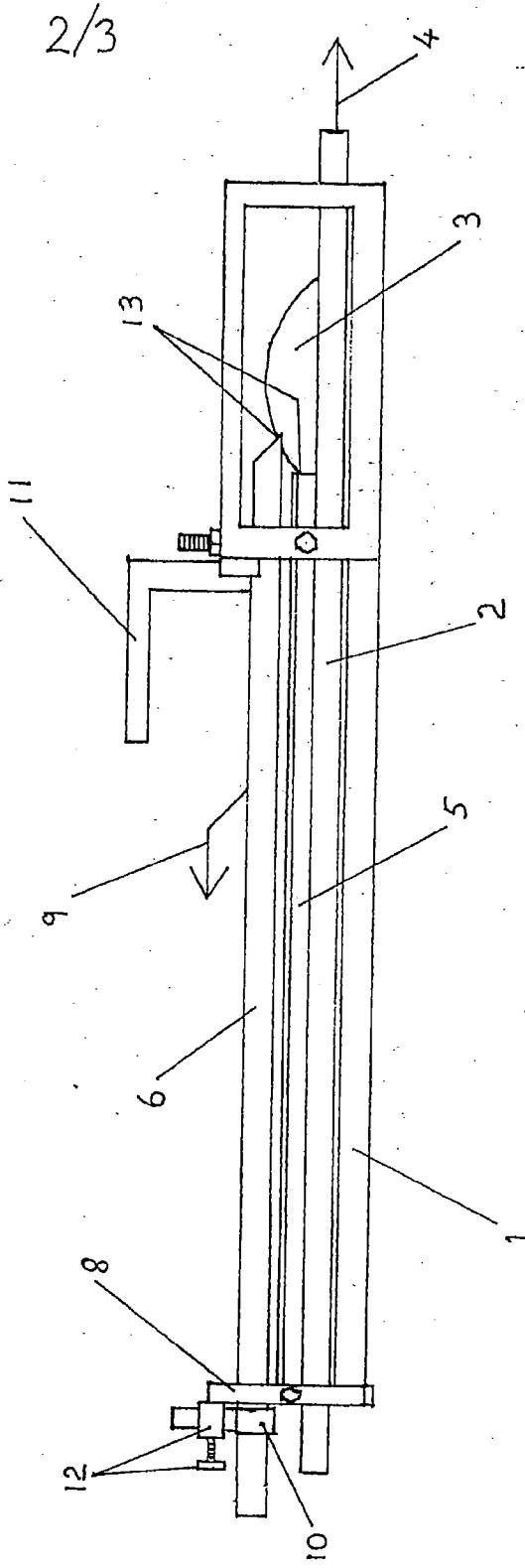


FIGURE 2



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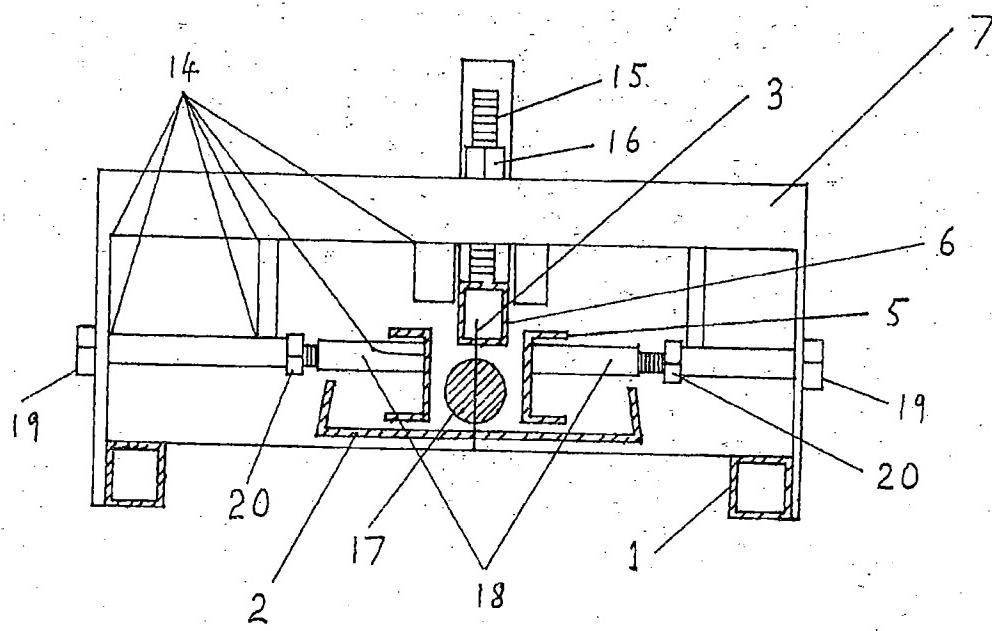


FIGURE 3